Simply television

smartmeter

Digital Satellite-Meter

User manual ENGLISH

Version: 06.10.2008

www.smart-electronic.de

Simply television smart

Preface

Dear Customer,
thank you for buying the Smart digital satellite meter.
Please read this user manual carefully before using this device.

This operating manual will help you in the
• appropriate,
• safe and
• favourable
usage of the smartmeter.

We assume that the user of the smartmeter has overall knowledge regarding the handling of audio and video equipment.
Each person who
• connects-up,
• operates,
• cleans or
• disposes of
this smartmeter must be familiar with the entire content of this operating manual.
This device must be familiar with the entire content of this operating manual.
Always keep this operating manual in the proximity of the devise.
Please keep this instruction manual for consulting near by the device.

smart electronic GmbH

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Description

The smartmeter is a handy digital antenna measuring device for an quick and easy alignment of satellite antennas. If a satellite is found, the smartmeter shows it on the display and emits a audible signal. Signal strength and quality are displayed as numerical values and bar graphs. Another measurement value is the forward error correction (FEC) and the bit error rate (BER). In addition, the picture quality can be revised on the high-resoluted 8.9-inch TFT LCD screen. Many satellites are pre-programmed in order to an quick antenna adjustment.
The scope of supply contains, among the charger, a USB cable which allows you to update the smartmeter's software.
A carrying case serves as protection and for the transport. It cares for better readability of the display at sunshine.

Safety instructions

Attention!
Please read the safety instructions carefully before operating the device. Please follow all warnings and instructions on the equipment and in the operating manual.

Safety of persons

Ensure that nobody can be hurt by falling tools or parts of the satellite antenna during the adjustment and installation of the antenna. For your own security use a rope on sloping roofs.

General information

Attention!

The devise should only be operated with the supplied AC adapter at the mains.

Do not open the meter or the included AC adapter. There is danger of life through electric shock!

Wrong usage of the ports can lead to the destruction of the measuring device.

Proceed carefully with the measuring device:
- Avoid low temperatures (below 0 °C) or to high humidity.
- The TFT display can be damaged by mechanical impacts.
- Avoid excessive input voltages. Please refer to the technical data starting from page 35.

Do not operate with the device:
- if it has visible damage,
- if there are loose parts in the device,
- if the device was located outdoors or in damp rooms a extended period of time.

Appropriate Usage

The measuring device smartmeter was developed to measure signals of digital satellite antennas and satellite systems. It is exclusively for this purpose and should only be used for this purpose. Use the equipment only for the purpose, which is described in this manual.
Follow all information in this manual, particularly the safety instructions on page 5.
Any other usage is rated as not properly and can result in damage or even injury.
There will be no liability for damages caused by a non-intended use.

Delivery range

Please check if the delivery is complete.
Included in delivery:

- device smartmeter,
- a carrying bag with sunshade,
- a PC connection cable with RS-232- and USB plug (Type A),
- a car adapter cable 12 V,
- an extern charger,
- an Euro-mains cable.
- an user manual,
- a CD-ROM including the Software for the smartmeter.

If the delivery should be incomplete, contact your specialist dealer or

smart electronic GmbH
Industriestraße 29
78112 St. Georgen
GERMANY
Service Hotline: 00 49 1805 / 93 52 11
Telefax: 00 49 7724 / 94 78 333
E-Mail: info@smart-electronic.de

Device overview

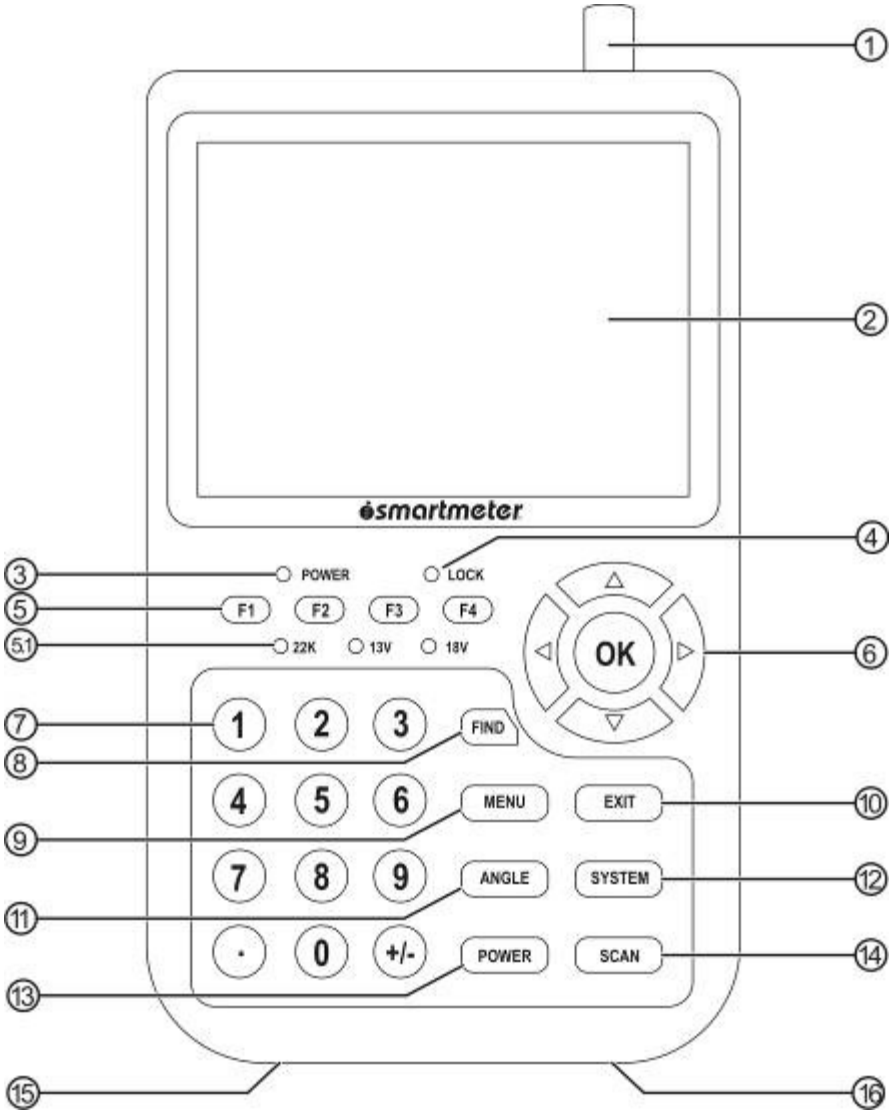


Figure 1: Front of the smartmeter

No.		Decription
1	LNB-IN	Digital satellite signal input
2	LC-Dispay	Display of the TV picture, the menu and the measured values
3	POWER-LED	Display of the energy state: Operation: red: the measuring device is switched on. Off: the measuring device is switched off. In charge: Green: The battery is charged Red: The battery is fully charged
4	LOCK-LED	LED lights when a signal is received.
5	FUNCTION keys	F1: toggle the Display F2: Mute F3: Additional information about the current program F4: switch between radio/TV mode
5.1	22K/13V/18V -LEDs	Lights if 22K/13V/18V signals are received
6 6.1	Navigation-cross OK - button	Navigation through menus, switching programs ▲, ▼ volume control ◄, ► OK button: confirmation of a selection
7	Numeric keys	Direct enter of numbers
8	FIND-button	FIND menu: for a quick and easy alignment of a satellite antenna
9	Menu-button	Display the main menu
10	EXIT-button	Leave the current menu, cancel operation
11	ANGLE-button	Display the calculation menu
12	SYSTEM-button	Configuration of all system parameter. Display current software version.
13	POWER-button	Switch device on/off
14	SCAN-button	Display the auto scan menu
15	AC adapter port	Low volt port – for power supply connection
16	USB-Port	USB port for PC connection

Start of operation

Battery

Before the first operation with the measuring device charge the battery completely. (see also chapter “Lithium-Ion battery” on page 11).

Load the accumulator during the first loading procedure at least 5 hours.

The maximum battery charging time is approximately 12 hours.

Switch-on the Device

⇨ Press at least 2 seconds the red power button on the smartmeter.

⇨ Enter the registration code using the numeric keys.

You have to enter the registration code before the first operation.
You can find the appropriate registration code at the back of the measuring device.

Please contact your dealer in case of a missing registration code.

Lithium-ions-battery

Explosion danger!
Never conntect the two poles (+ and -) with each other!

Attention!
Do not store or operate the accumulator above 40° C. Do not burn or damage accumulator. Avoid contact with water.

Charging the battery

The maximum battery charging time is approximately 12 hours..

A charging circuit in the measuring device provides an optimal charge of the battery. The device is charged if it is switched off.

- ➔ Turn the device off, if it is not already off.
- ➔ Connect the Euro-main cable with the external AC adapter.
- ➔ Connect the external AC adapter to the power grid.
- ➔ Connect the AC adapter to the low-voltage port at the bottom.
- ➔ The battery is charged as soon as you connect the AC adapter to the smartmeter

The Power-LED shows the battery status:

- green: the battery is charged
- red: the battery is completely loaded

Storing of the batteries

Store the batteries between 0° Celsius and 40° Celsius.

Load the accumulator at a longer storage every two weeks to avoid a depth discharge.

System settings

➔ Press the MENU button.
➔ Select the point ***system setting***.
➔ Confirm your selection using the OK button.

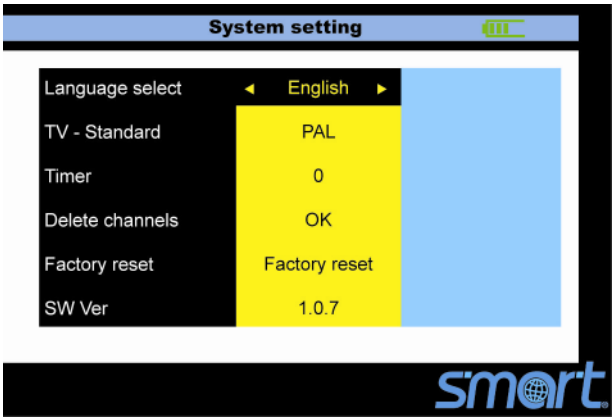


Figure 2: System setting

Menu language setting

Press the SYSTEM button to change the menu language.
⇨ Select the point ***Language select***.
⇨ Choose your desired language using the ◄- or ►- button.
⇨ After your selection press the EXIT button and follow the instructions on.

TV-standard

In this menu you can select the TV output standard.
⇨ Press the SYSTEM button.
⇨ Select the point ***TV standard***.
⇨ Choose your TV standard using the ◄- or ►- button.

You can choose between the following TV standards:

- **PAL** | **SECAM** | **NTSC** | **Auto**

⇨ After completion of your selection press the EXIT button and follow the instructions on the display.

Timer

Through this setting you can select the satellitemeter's LCD shut off time.
⇨ Press the SYSTEM button.
⇨ Press the ◄- or ►- button to set the timer.
⇨ At least press the EXIT button and follow the instructions on the display.

Delete channels

You can delete single channels from your channel list in this menu.
⇨ Press the SYSTEM button to retriever the menu ***system settings***.
⇨ Select the menu item ***delete channels***
⇨ Select the channels you would like to delete. Press respectively the OK button. Next to channels you would like to delete should appear an "x".

Press the EXIT button and obey to the instruction on the display.

Factory reset

This menu item is described on page 15.

Software Version

⇨ Press the SYSTEM button.

➔ At ***software version*** you can read the current software state of the smartmeter.

➔ How to update the software is described on page 26.

Note!

In the support area at http://www.smart-electronic.de , you have got the option to download the topical software for the smartmeter.

Factory reset

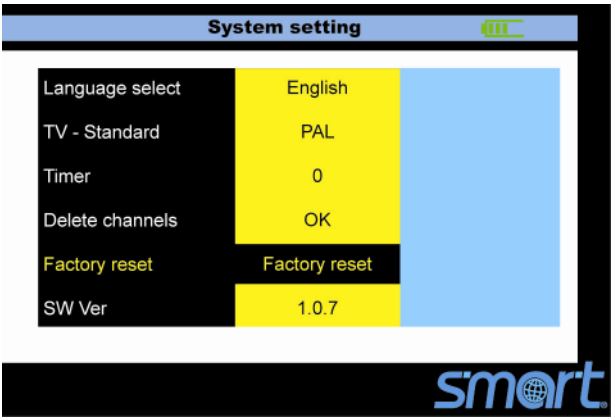


Figure 3: Factory reset

In this menu item, you can put your equipment back to the delivery status.

⇨ Press the SYSTEM button to display the System setting menu.

⇨ Select the point ***factory reset***.

⇨ Note the instructions on the display and confirm your selection with the OK button or cancel it using the EXIT button.

Attention!
All programs and settings, configured by you, will be reset to delivery status.

Note!

After reset to factory default you will have to enter the registration code. You can find the appropriate registration code at the back of the measuring device.
Please contact your dealer in case of a missing registration code.

Satellite finding

In this menu you have the option to search for single channels or using the display for lining a satellite dish up.

⇨ Press the SYSTEM button to display the System setting menu.

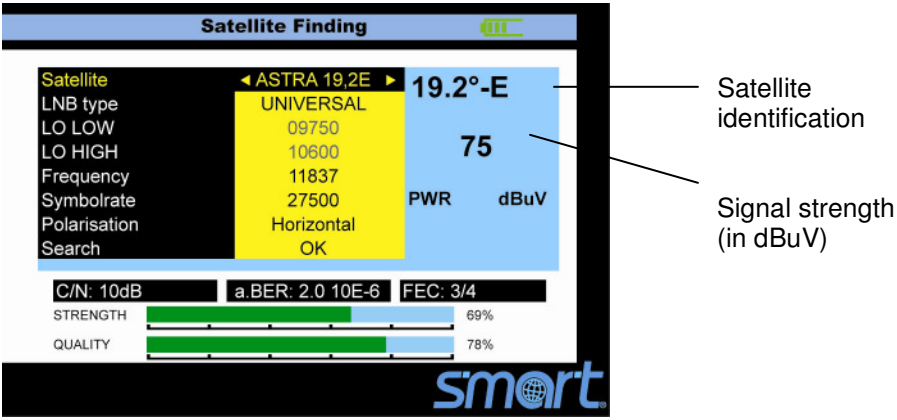


Figure 4: Satellite Finding

Finding channels manual

⇨ Press the FIND button to display the menu ***satellite finding***.

⇨ Press the ◄- or ►- button to select a satellite.

⇨ Press the ▼- button to choose between the following points.

• LNB-type	• Low L.O.F.	• High L.O.F.
• Frequency	• Symbol rate	• Polarisation

⇨ Press the ◄- or ►- button to select a LNB type..

⇨ If you would like to enter a customised L.O.F. select the point "***customised"*** and enter the low L.O.F. and high L.O.F. frequency using the NUMERIC buttons.

⇨ Enter the frequency using the NUMERIC buttons.

⇨ Enter the symbol rate using the NUMERIC buttons.

⇨ Press the ◄- or ►- button to select the polarisation.

⇨ The located channels are attached at the end of the channel list, unless they already exist.

Satellite adjustement

-> Press the FIND button to display the menu ***satellite finding***.

⇨ Choose a satellite.

⇨ Turn the receiving dish as long as the LOCK- LED lights, or the joists of the signal level and signal quality are green.

Once a signal is found, the bar graph shows the signal strength and quality. In addition C/N, FEC and a.BER (after BER) are displayed. In addition an acoustic signal is represented.

Notice!

The satellite call sign (see Figure 4) registers which satellite you receive at the moment. At some satellites, as for example "Türksat", a wrong satellite call sign is present on single transponders, hence, the announcement can be falsified. Therefore, we recommend to leave the setting on the preset first transponder with the search of a satellite. Therefore the right satellite call sign is indicated in general always.

⇨ Set up the satellite antenna exactly to receive the best signal.

Notice!

The C/N value should amount 6dB at least. Values of 10dB and more are urgently if you like to have a certain bad weather reserve. Or in the case if the signal is distributed via a multiswitch to several receivers.

The higher the C/N value, the better.

The BER value behind “10E” is important. The higher, the better. The value should be minimal 10E-4. The optimum is 10E-6.

Satellite setting

Edit satellites

⇨ Press the MENU button to display the main menu.

⇨ Press the ▲- or ▼- button to move the cursor.

⇨ Select the point ***satellite setting*** and press the OK button

Figure 5:: *Satellite setting*

⇨ Select the point ***Edit satellites*** and press the OK button.

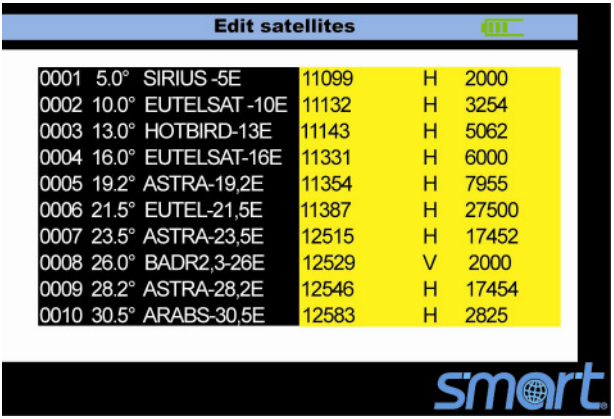


Figure 6: *Edit satellites*

⇨ Press the ◄- or ►- button to switch between the satellites and transponder list of the chosen satellite.

⇨ Press the OK button to display the angle and position of the current satellite.
⇨ Press the ►- button to switch to the transponder list.

⇨ Press the OK button. After that you can modify the frequency, polarisation and the symbol rate.

⇨ To store your changes select ***save*** and press the OK button.

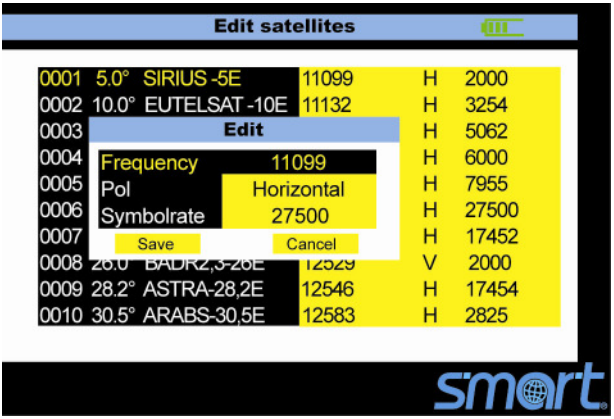


Figure 7: Propertys of the selected satellite

Dish set-up

⇨ Select the point ***Dish set-up*** and press the OK-button.

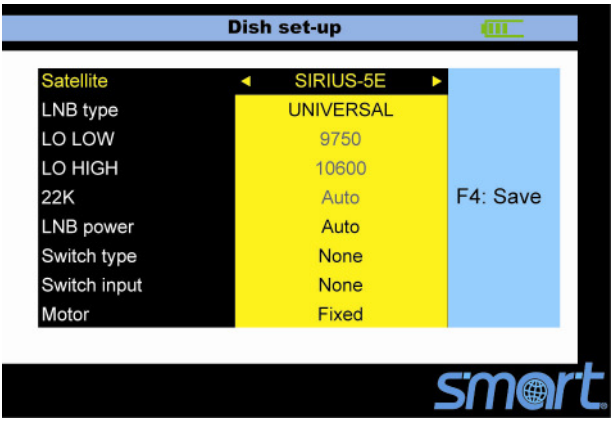


Figure 9: Dish set-up

⇨ Press the ▲- or ▼- button to move to the desired item

⇨ Press the ◄- or ►- button to modify the value of the selected item. Use the NUMERIC buttons if necessary.

• Satellite	• LNB-Type	• Low L.O.F.	• Hight L.O.F.
• 22K	• LNB power	• DiSEqC-Level • Motor	• Switch inuput

Satellite: Satellite selection

LNB-Type: UNIVERSAL, 5150, 9750, 10750, 11300, 10700, Customised

Low L.O.F.: Use the NUMERIC keys to input the Low L.O.F. The LNB Type must be set to ***Customised***.

Hight L.O.F.: Use the NUMERIC keys to input the High L.O.F. The LNB Type must be set to ***Customised***.

22K: AUTO, ON, OFF4

LNB power (LNB-Tension): Off, Auto, 13V, 18V

DiSEqC-Level: - / DiSEqC 1.0
Switch Input: 1, 2, 3, 4
Motor: Fixed, DiSEqC 1.2, USALS

Press the F4 button to save the setting, or the EXIT button to store the settings or to leave the menu. Follow the instructions on the display.

Automatic scan

⇨ Press the SCAN-button.

⇨ Press the ▲- or ▼- button to move the cursor

⇨ Use the ◄- or ►- button to modify the value of the following items:

• Satellite	• Transponder	• Motor
• Mode	• Search	

Satellite: Choose the desired satellite
Transponder: Choose the desired transponders
Motor: This settings are changed by the **Dish set-up** (see page 20)
Mode: ALL, FTA, Scrambled
Search: Satellite, transponder

⇨ Having your selection press the OK button to start the search.
⇨ After the completion of the search you can leave the menu using the EXIT button.

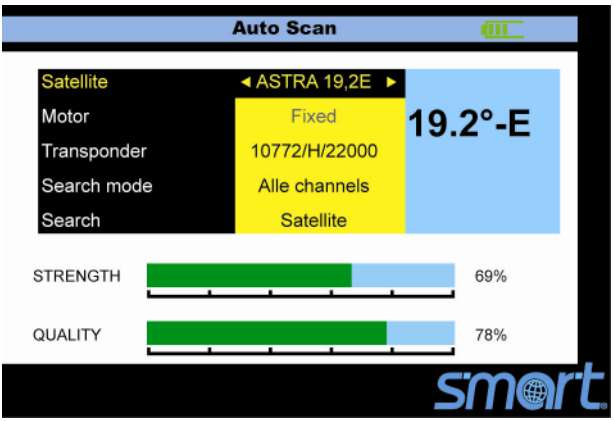


Figure10: Automatic search

Angle calculation

⇨ Press the ANGLE button to display the calculation menu.
⇨ Press the ◄- or ►- button or use the NUMERIC keys to change the configuration of the selected menu point.

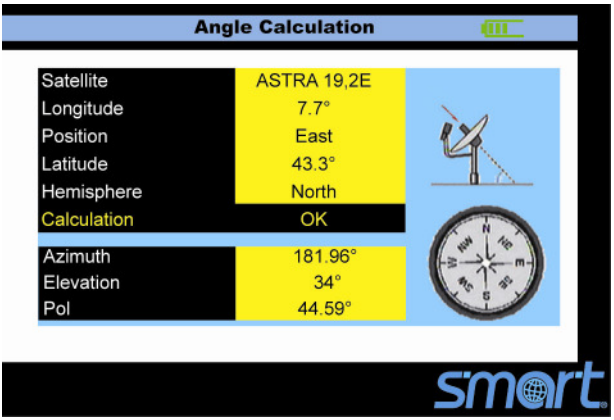


Figure 11: Angle Calculation

⇨ Press the ▲- or ▼- button to select the following points:

• Satellite	• Longitude	• Location	• Latitude
• Hemisphere	• Angle calculation		

Satellite: Select the desired satellite
Longtitude: Input your local longtitude
Location: Input the direction
Latitude: Input your local latitude
Hemisphere: Input your local hemisphere

⇨ After the completion of all values select **Angle Calculation** and press the OK button.

Azimut: shows the azimuth of the chosen satellite
Elevation: shows the angle of elevation of the chosen satellite
Polarity: shows the polarity angle of the chosen satellite

Channel selection

⇨Press the OK button and choose the desired program using the ▲- or ▼-button. Press the OK button again.

Figure 12: Menu configuration

If you know the channel number, you can enter it in tv-mode with the NUMERIC buttons and wait 2 seconds until the channel is changed.

Channel information

⇨ Press the F3 button in the TV mode to get additional information about the current channel.

Figure 13: Additional Information

⇨ Use this menu to check the satellite name, channel name, the transponder parameter or the signal strength etc.

System-Button

You can request current information or the software version of your device. Note: This information is useful to check if there is a newer software available version than the current version on your device.

Update / changing parameters

Needed for operation:

- smartmeter
- PC with System Software Windows and RS-232-Interface
- USB cable (USB - RS-232)
- smartmeter-Power supply
- application software "MeterV1.2.exe"
- Current firmware

Download the current software from the smart website www.smart-electronic.de.

The transmitting software and the original firmware with software version of the delivery status contains the enclosed CD-ROM.

Preparing the smartmeter

Attention!
Secure, that during the update the smartmeter is provided with electricity. During the update supply the smartmeter with electrical power by power supply unit. It's important to make a factory reset after updating the device.

⇨ Switch off the smartmeter.

⇨ Connect the smartmeter by zero modem cable with the interface of the PC.

⇨ Provide the smartmeter with electricity via the power supply unit.

- The connecting cable (USB – RS-232) is included in the delivery range.

Executing update

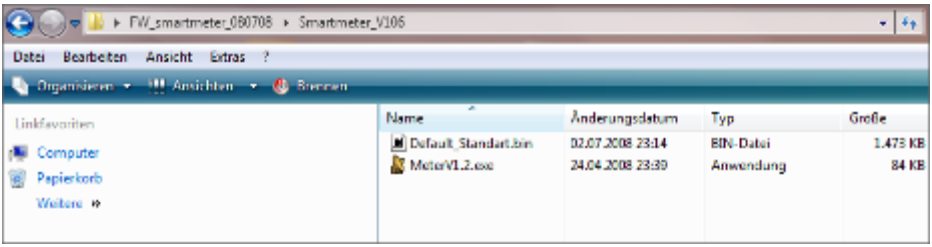


Figure 2: CD-ROM contents

⇨ Switch on the smartmeter. Wait until the "main menu" on the screen smartmeter is indicated.

⇨ Load the transmitting software "MeterV1.2.exe".

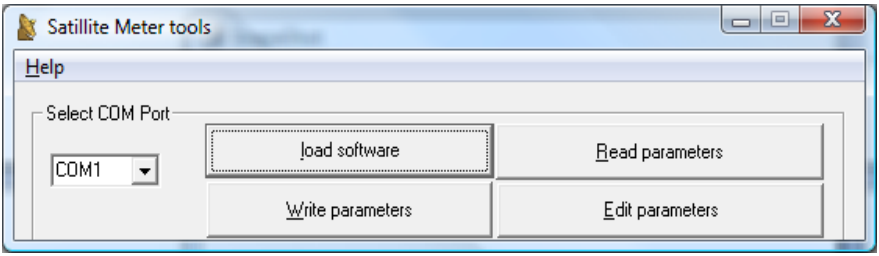


Figure 3: Sattelitemeterr –main menu

⇨ Select the serial interface on the PC the cable is connected. (COM1)

⇨ Push the button ***load software***.

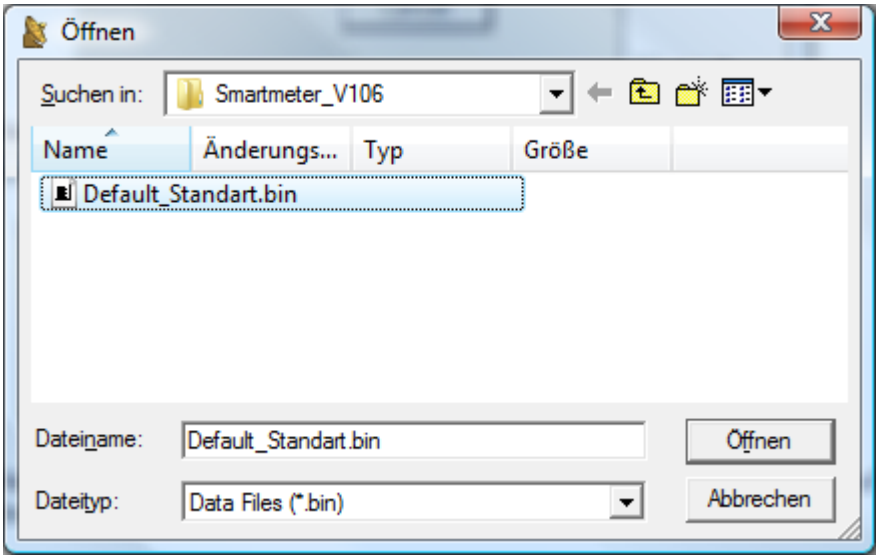
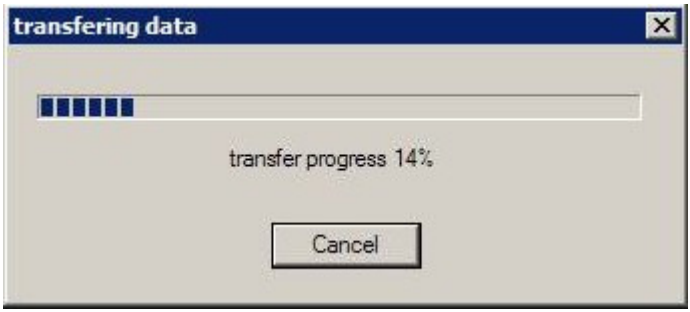


Figure 4: „Open“ -dialogue

⇨ Select the current software file, push open



⇨

Figure 5: Transfering data

After transfering data, the smartmeter starts automatically again.

It can pass up to 2 minutes, until the smartmeter restarts itself. Do not switch off the device, until the smartmeter has restarted automatically and indicates the main menu.

Now the smartmeter is up-to-date and can be reinstated, after a factory reset was made.

Editing parameters

- ⇨ Select the right serial interface on the PC (COM1).
- ⇨ To change the parameters of the smartmeter, press ***read parameters*** to save its current configuration.
- ⇨ Select a file name (e.g. data.bin) and wait until the process is completed.
- ⇨ Press ***edit parameters*** and choose the file which you have just selected (in the example: data.bin).

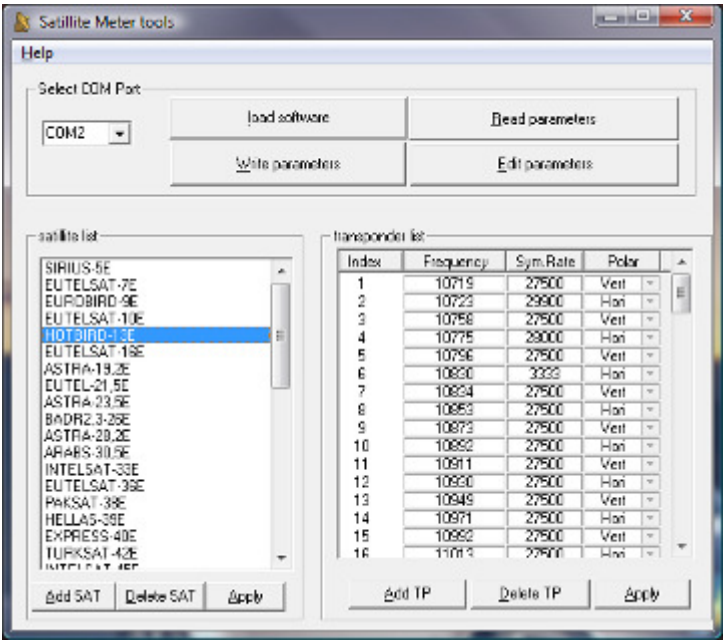


Figure 5: Edit parameter

Now you've got the option to delete, to edit, to add as well the transponder as the satellite parameters.

Adding satellites

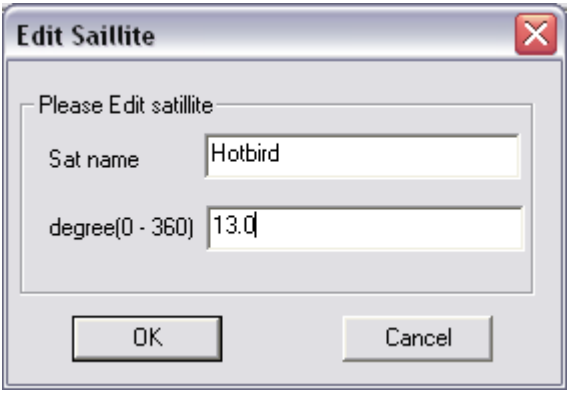


Figure 6: Adding satellites

To add a satellite, press ***Add SAT*** and give the satellite name and the position. After the end of this process press ***apply.***

Delete satellites

Choose the satellite which you would like to remove, and press ***delete SAT***. After the end of this process press ***apply***.

Edit satellites

Doubleclick on the satellite which you would like to work on.

Additing transponders

To add a transponder, select a satellite. Press ***ADD TP***. An empty transponder is added.

Now you can change the frequency, symbol rate and polarisation of the transponder, while doubleclicking on the respective value. After the end of this process press ***apply.***

⇨ As soon as you are ready with the treatment, you can write these parametres on the smartmeter. Press ***write parameters.*** After successful transfer the measuring instrument will restart itself independently.

Attention!

Never switch off the smartmeter during the update processes. Wait until the smartmeter independently restarts. This can take up to 2 minutes.

Alternatively to „Sattelite Meter tools“ you can also use the "SetEditsmartmeter" that you can find on the added CD-ROM or download at:
http://www.setedit.de/SetEditsmartmeter_de.html

Cleaning

	Danger of electric shock! There should be no liquid in the device. Never clean it with a wet cloth. Pull all plugs before cleaning the device.
	Attention! Never use solvet-containing agents like benzene or similar. Agents like these can damage the surface of the housing.

⇨ Pull all plugs from the device (USB-, antenna cable) before cleaning.

⇨ Clean the housing and the display using a soft, lint-free cloth. In case of stronger dirt you can use a mild soap sud.

⇨The keys can be cleaned using compressed air (max. 2 Bar). Do not use any solvents.

Storing the Product

⇨ Unplug the device from the mains.

⇨ Unscrew the LNB cable from the device.

⇨ Pull all plugs out of the sockets.

⇨ Pack the device and all cables into the original carton.

⇨ Store the device and all accessories at a dry and dust-free location.

⇨ Protect the device from frost.

Trouble shooting

Fault phenomenon	Probabable reasons	Solutions
Device does not react.	The battery is empty.	Charge the battery.
Bad picture , block defect	The antenna is not adjusted to the satellite. The LNB is defect	Adjust the antenna. Replace the LNB.
No or only weak signal.		Please check all cable connections. Adjust the antenna.
No picture, no sound.	Display/ Sounds turned off	Turn on the display by pushing the F1 button. Turn on the sound by pushing the F2 or ► button.

If you cannot find out what is wrong with your device please contact your local specialized dealer.

At www.smart-electronic.de you can find the area „Support“ and FAQ being provided in the topical problem solutions.

Disposal

	Attention! Never throw the receiver and the batteries in normal household waste. They may contain toxic agents that are hazardous to health and environment. Therefore dispose of the device and the batteries immediately according to the prevailing statutory regulations. Never throw the batteries in normal household waste.

Figure 13: WEEE-Symbol

Used devices contain valuable materials that should be recycled. Electronic equipment is not household waste - in accordance with directive 2002/96/EC OF THE EUROPEAN PARLIAMENT AND THE COUNCIL of 27th January 2003 on used electrical and electronic equipment it must be disposed of properly. At the end of its service life take this unit for disposal at a relevant official collection point.
Help to keep our environment clean wich we are living in!

Technical specifications

LNB/Tuner input

F-type connector	IEC 169-24
Frequency range	950 MHz ~ 2150 MHz
Input level	-65 dBm bis -25 dBm
LNB power supply	13/18 V, max. 400 mA
LNB control signal	22 kHz
DiSEqC control	Version 1.0

Demodulator

Front-end-modul	QPSK
Symbol rate	1,5 Mbps bis 45 Mbps
SCPC- und MCPC	
Spectral inversion	Auto conversion

System resource

Processor	32 bit
SDRAM	16 MByte
FLASH	2 MByte
EEPROM	8Kbyte

Vide decoder

Data rate	up to 15 Mbit/s
Resolution	720 x 576 (PAL), 720 x 480 (NTSC)
Video format	PAL, NTSC, SECAM

Connectors

Serial data interface	USB (Type A)

Power supply

Supply voltage	12,6 V
Li-oN battery	1950 mA
Charger	90 – 240 V
Supply voltage (charger)	175 - 250 V ~, 50/60 Hz

Dimensions

Length x width x height	9,5 x 15,5 x 4,5 cm
Gewicht	0,5 Kg

Temperature

Operating temperature	0° C to +40° C
Storage temperature	-40° C to +65° C

Supplier

smart electronic GmbH
Industriestraße 29
78112 St. Georgen
Deutschland

Service Hotline: 00 49 1805 / 93 52 11
Telefax: 00 49 7724 / 94 78 333
E-Mail: info@smart-electronic.de
Internet: www.smart-electronic.de

Warrenty

The warranty for the digital satellite receiver Smart smartmeter of the company smart electronic GmbH is in conformity with the prevailing statutory regulations at the time of purchasing the product..

Declaration of conformity

The company smart electronic GmbH, Industriestraße 29, 78112 St. Georgen hereby declares conformity with the following guidelines and standards for this product:

- Guideline for low voltage 2006/95/EG
- EN 60 335-1
- EN 60 335-2-15
- Guideline for electromagnetic compatibility 2004/108/EG
- EN 55 013:2001
- EN 55 020
- EN 61 000-3-2:2000
- EN 61 000-3-3:1995+A1:2001
- EN 61 938
- Equipment type / model: Digital smartmeter

smart electronic GmbH

www.smart-electronic.de

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